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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,837	11/18/2003	Brian S. Appel	10281-013-999	7051

7590 02/22/2006

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EXAMINER

MENON, KRISHNAN S

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/716,837

Applicant(s)

APPEL ET AL.

Examiner

Krishnan S. Menon

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 1-17 are pending as originally filed

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1,2,4-10 and 13-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Fischel et al (US 4,871,462).

Claims 1,2 and 17: Fischel'462 teaches a tapered cylindrical casing (see figures) containing a frusto-conical chamber (400-figure 11) having an outer surface covered with a porous membrane (on 400), the casing having inlet and outlet (406,407), the chamber having a hollow spindle (409) which has a second outlet (408), the membrane surface having an annular gap with the inside surface of the casing as claimed (see figure).

Claim 4: speed 5000-6000 rpm (column 8 lines 45-50)

Claims 5,6: constant and variable annular gap – figure 7

Claim 7-9: pore size – see column 10 lines 1-19: shows the membrane pore size effect from 1-120 μm .

Claim 10: pore wall sized to separate sewage sludge – this would be intended use: apparatus is capable of use for this purpose.

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Claims 13, 14: pressure differential – see abstract. 3-4 psi would depend on the intended use of the apparatus. The centrifugal force also would inherently produce this trans-membrane pressure

Claims 15,16: configured and dimensioned for the flow rate: again, intended use; the dimensioning of the apparatus is a scale-up issue for the quantity of feed to be processed.

2. Claims 1-4, 11,12 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Fischel et al (US 4,755,300).

[Please note that the apparatus of Fischel'300 and Fischel 462 are the same ('462 is a continuation of '300); and the design values of the Fischel'300 reference is useful in Fischel'462 as well.]

Claims 1,2 and 17: Fischel'300 teaches a tapered cylindrical casing (see figure 2) containing a frusto-conical chamber (14) having an outer surface covered with a porous membrane (18 on 14), the casing having inlet and outlet (40,42), the chamber having a hollow spindle (32) which has a second outlet (34), the membrane surface having an annular gap (21) with the inside surface of the casing as claimed.

Claim 3,4: 10,000 rpm; – see column 24 lines 1-10 for the rpm of the apparatus.

Claims 11,12: taper angle for the cylindrical wall: how to set the design parameters of the apparatus is given in column 23 line 25 – column 25 line 13 and figure 24A and B. The D values in column 25 lines 1-13 in combination with a straight frusto-conical chamber and figure 24 would give a taper angle at 2.5°.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S. Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'K. S. Menon', is written above the printed name.

Krishnan S. Menon
Patent Examiner
2/16/06